

Study of Angiosperm Plant Species at Sadar Upazila of Naogaon District, Bangladesh

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ABSTRACT

Study of Angiosperm plant species at sadar upazila of Naogaon district, Bangladesh conducted during December 2013 to July 2015. A total of 239 species belonging to 198 genera under 83 families were recorded. Of these, Magnoliopsida (Dicotyledones) is represented by 206 species under 167 genera and 74 families while Liliopsida (Monocotyledones) is represented by 33 species under 31 genera and 9 families. Cucurbitaceae is the largest family in Magnoliopsida represented by 13 species and, in Liliopsida, Poaceae is the largest family with 10 species. Habit analysis shows that herbs, shrubs, climbers and trees are represented by 92, 46, 29 and 72 species, respectively. Amaranthaceae, Asteraceae, Apocynaceae, Caesalpiniaceae, Convolvulaceae, Cucurbitaceae, Euphorbiaceae, Fabaceae, Moraceae, Malvaceae, Mimosaceae, Myrtaceae, Poaceae, Rutaceae and Solanaceae are the dominant families with high species diversity. For each species botanical name, local name, habit, phenology, relative occurrence, plant population, voucher number and family were provided.

Key words: Systematic Study, Angiosperm Taxa, Naogaon, Bangladesh

1. INTRODUCTION

The flowering plants have a number of uses as food, specifically as grains, sugars, vegetables, fruits, oils, nuts, and spices. In addition, plants and their products serve a number of other needs, such as dyes, fibres, timber, fuel, medicines, and ornamentals. Many plants serve more than one function. For example, the seeds of the kapok fruit (*Ceiba pentandra*; Malvaceae) yield a water-repellent fibre used in sound and thermal insulation and an edible oil used in cooking, lubricants, and soap; the oil cake is rich in protein and is fed to livestock; and the soft, light wood is used to make furniture and boats. The angiospermous plant converts the energy of the sun into starch, the energy-rich storage form of sugar, and reserves it in the endosperm of the seed for the time when the seedling germinates and grows. Among the most economically important grains throughout the world are corn, wheat (*Triticum*), rice (*Oryza*), barley (*Hordeum*), oats (*Avena*), sorghum (*Sorghum*), and rye (*Secale*), all members of the grass family, Poaceae. The contribution of the angiosperms to biodiversity and habitat is so extremely important that human life is totally dependent on it. A significant loss of angiosperms would reduce the variety of food sources and oxygen supply in a habitat and drastically alter the amount and distribution of the world's precipitation. Many sources of food and medicine doubtless remain to be discovered in this group of vascular plants (Purseglove, 1968a, 1968b).

The importance of studying local floristic diversity has been realized and carried out in Bangladesh by Tutul et al. (2010), Khan and Afza (1968), Khan and Banu (1972), Khan and Hassan (1984), Khan and Huq (2001), Rahman *et al.* (2006), Rahman *et al.* (2007a, 2007b, 2007c), Rahman *et al.* (2008a, 2008b), Rahman *et al.* (2011), Rahman (2013a, 2013b, 2013c, 2013d, 2013e, 2013f, 2013g), Rahman *et al.* (2013), Rahman and Akter (2013), Rahman and Khanom (2013), Rahman (2014), Rahman *et al.* (2014a, 2014b), Rahman and Gulshana (2014), Rahman and Keya (2014a, 2014b), Rahman and Rahman (2014), Rahman and Rojonigondha (2014), Rahman and Parvin (2015), Rahman et al (2015a, 2015b, 2015c), Ara *et al.* (2011, 2013), Rahman and Uddin (1997), Rahman and Alam (2013), Sultana and Rahman (2016), Arefin *et al.* (2011), Islam *et al.* (2009), Khan and Huq (2001), Khan *et al.* (1994), Rahman *et al.* (2010, 2013), Rahman and Hassan (1995), Uddin and Hassan (2010, 2012), and Uddin *et al.* (2013, 2014). The present study was made an inventory of the angiosperm taxa at sadar upazila of Naogaon district, Bangladesh.

2. MATERIALS AND METHODS

Study of angiosperm taxa at sadar upazila of Naogaon district, Bangladesh was carried out from December 2013 to June 2015. A total of 239 species belonging to 198 genera under 83 families were collected and identified. A survey on the determination of the location of different species was made and a list was prepared to be acquainted with the plants available in the selected area. All the species were noted and time to time the areas were visited to see when they flowered. For the morphological study, different types of species were examined again and again in order to see if there was any variation or not. They were collected at flowering stages and herbarium specimens were prepared as vouchers. In this practice standard method was followed. In this regard different types of plant species were collected from different habitats. All the collected plant specimens were kept in the Herbarium, Department of Botany, and University of Rajshahi, Bangladesh. The major collected materials were identified and described up to species with the help of Cronquist (1981), Hooker (1961), Prain (1963) and Kirtikar and Basu (1987), Ahmed et al (2008-2009) were consulted. For the current name and up-to-date nomenclature Huq (1986) and Pasha and Uddin (2013) were also consulted.

3. RESULTS AND DISCUSSION

Study of Angiosperm taxa at sadar upazila of Naogaon district, Bangladesh conducted during December 2013 to July 2015. A total of 239 species belonging to 198 genera under 83 families were recorded. Of these, Magnoliopsida (Dicotyledones) is represented by 206 species under 167 genera and 74 families while Liliopsida (Monocotyledones) is represented by 33 species under 31 genera and 9 families. Cucurbitaceae is the largest family in Magnoliopsida represented by 13 species and, in Liliopsida, Poaceae is the largest family with 10 species. Habit analysis shows that herbs, shrubs, climbers and trees are represented by 92, 46, 29 and 72 species, respectively (Table 1). Amaranthaceae, Asteraceae, Apocynaceae, Caesalpiniaceae, Convolvulaceae, Cucurbitaceae, Euphorbiaceae,

Fabaceae, Moraceae, Malvaceae, Mimosaceae, Myrtaceae, Poaceae, Rutaceae and Solanaceae are the dominant families with high species diversity. For each species botanical name, local name, habit, relative occurrence, plant population, voucher number and family were provided (Table 1). Of 239 species recorded here, herbs are represented by 92(38.49%), trees by72 (30.13%), shrubs by 46(19.25%) and climber by 29(12.13%) species (Figure 1).

Based on this study, a checklist of angiosperm flora at Sadar Upazila of Naogaon district, Bangladesh conducted during December 2013 to July 2015. A total of 239 species belonging to 198 genera under 83 families were recorded (Table 1). The collected information is comparable with the result of other studies in Bangladesh. A total of 243 species belonging to 195 genera under 95 families were recorded in Khagrachhari district (Islam *et al.*, 2009). A total of 374 species belonging to 264 genera under 84 families were recorded in Lawachara National Park (Uddin and Hassan, 2010). A total of 153 species belonging to 120 genera under 52 families were recorded in Runctia Sal Forest (Tutul et al., 2010). A total of 245 species belonged to 183 genera and 72 families are documented in Habiganj district (Arefin *et al.*, 2011). A total of 425 species belonging to 321 genera 108 families are recorded in Rajshahi district (Rahman, 2013). A total of 302 species belonging to 243 genera 84 families are recorded in Bangladesh Police Academy, Rajshahi (Rahman et *al.*, 2014). No published information recorded on the diversity of angiosperm plant species at Sadar Upazila of Naogaon district, Bangladesh.

Distribution of angiosperm species in the families shows variation. The family Cucurbitaceae is represented by 13 species. The family Solanaceae and Fabaceae is represented by 11 species and 12species. Poaceae is represented by 10 species. Each of Moraceae and Asteraceae is represented by 8 species and 9 species. Amaranthaceae is represented by 8 species. Each of Apocynaceae, Verbenaceae represented by 7 and Euphorbiaceae is represented by 8 species. A single species in each was recorded by 37 families while two to five species in each was recorded by 34 families (Table 1). According to the data obtained in result of quantitative analysis in the study area 239 plant species were recorded, out of them 92 plant species were herbs, 46 were shrubs, 29 were climbers and 72 were tree species belonging to 83 families (Table 1; Figure 1).

Distribution was measured only to indicate the status of occurrence of each species in this area and was based on eye estimation. A species which is distributed every where is called abundant (very common); when it is distributed at certain intervals is called frequent (common). Occurrence of species which is very few is called rare and distribution by one or two plants is called as very rare. A total of 239 species belonging to 198 genera under 83 families were recorded. Of the total number of species, 25.1% species were very common, 45.61% species were common, 23.01% were rare and 6.28% plant species were very rare species in the study area (Table 1; Figure 2). In the study area, 148 plant species are planted and 91 species are wild (Table 1; Figure 3).

Though the study area has a moderately rich resource of angiosperm flora, it witnesses some threats which might cause this resource to extinct. Observations and group discussion with local people during field works resulted in identifying some major threats which include urbanization, modern agriculture, and lack of awareness, exotic plantation and river erosion. Therefore, efforts should be undertaken to safeguard the plants through ex situ and in situ approaches, public awareness should be built up, and protection of habitats of should be ensured.

Table 1 Assessment of Angiosperm Taxa at sadar upazila of Naogaon district, Bangladesh

SL No.	Botanical Name	Local Name	Family	Habit	Relative occurrence	Plant Population	Phenology #	Voucher No.	
1	Abelmoschus esculentus	Dherosh	Malvaceae	Н	Р	VC	Feb-Aug	J	12
2	Abroma augusta	Ulat kambal	Sterculiaceae	T	Р	CN	Jun-Dec	J	85
3	Acacia auriculiformis	Akashmoni	Fabaceae	T	Р	VC	TY	J	157
4	Achras zapota	Shofeda	Sapotaceae	Т	Р	CN	TY	J	4
5	Achyranthesaspera	Apang	Amaranthacaae	Н	W	VC	TY	J	214
6	Aegle marmelos	Bel	Rutaceae	T	Р	CN	Apr-Dec	J	17

7	Ageratum conyzoides	Vutraj	Asteraceae	Н	W	VC	TY	J	83
8	Albizia procera	Korhigas	Mimosaceae	Т	Р	CN	May-Jan	J	166
9	Allium cepa	Piyaj	Liliaceae	Н	Р	CN	Feb-Jun	J	200
10	Alocasis indica	Man-Kachu	Araceae	Н	W	С	Aug-Non	J	198
11	Allium sativum	Rosun	Liliaceae	Н	Р	CN	Feb-Apr	J	148
12	Alstonia scholaris	Chatim	Apocynaceae	Т	Р	CN	Nov-May	J	159
13	Alternanthera	Lineclock	Amaranthaceae	Н	W	VR	Jan-May	J	181
	paronychioides								
14	Alternanthera sessilis	Chanshi	Amaranthaceae	Н	W	VC	TY	J	193
15	Amaranthus dubius	Daata	Amaranthaceae	S	Р	CN	Feb-Oct	J	77
16	Amaranthus spinosus	Kanta natey	Amaranthaceae	Н	W	VC	TY	J	201
17	Amaranthus tricolor	Lalshak	Amaranthaceae	Н	Р	VC	TY	J	65
18	Ammannia bacifera	Banmarach	Lythraceae	Н	W	CN	Jan-April	J	223
19	Ancardium occidentale	Kajubadam	Anacar-daceae	Т	Р	VR	April-July	J	226
20	Andrographis	Kalomegh	Acanthaceae	Н	W	CN	Jan-April	J	237
	paniculata								
21	Amaranthus viridis	Gaikhura	Amaranthaceae	Н	W	VC	TY	J	32
22	Annona squamosa	Aata	Annonaceae	Т	Р	R	Mar-Dec	J	34
23	Anthocephalus	Kodom	Rubiaceae	Т	Р	CN	July-Nov	J	42
	chinensis								
24	Aphanamixis	Pitraaj	Meliaceae	Т	Р	VC	Feb-May	J	37
	polystachya								
25	Arachis hypogea	Chinabadam	Fabaceae	Н	Р	R	Mar-Dec	J	189
26	Ardisia aniculata	Aam changa	Araliaceae	Н	W	С	Apr-Jun	J	228
27	Areca catechu	Shupari	Arecaceae	T	Р	VC	TY	J	118
28	Argemone maxicana	Sheyalkata	Papaveraceae	Н	W	VC	Feb-Jun	J	109
29	Artocarpus	Kathal	Moraceae	T	Р	VC	Mar-Jul	J	25
	heterophyllus								
30	Artocarpus lacucha	Deu	Moraceae	Т	Р	R	Apr-Jun	J	16
31	Asparagus racemosus	Shotomuli	Liliaceae	С	W	R	Nov-Mar	J	145
32	Averrhoa carambola	Kamranga	Oxalidaceae	Т	Р	CN	Sep-Mar	J	1
33	Azadirachta indica	Nim	Meliaceae	Т	Р	VC	Mar-Jul	J	19
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34	Baccaurea ramiflora	Notkot	Euphorbiaceae	Т	Р	CN	Jun-Sep	J	8
35	Bambusa arundinacea	Bash	Poaceae	S	Р	VC	TY	J	125
36	Bambusa balcooa	Balkabasns	Poaceae	Т	Р	CN	NK	J	207
37	Barringtonia	Hijal	Lecythidaceae	T	Р	R	May-July	J	218
	acutangula								
38	Basella alba	Puishak	Basellaceae	С	Р	VC	Nov-Mar	J	146
39	Bauhinia acuminata	Kanchan	Fabaceae	Т	Р	С	Mar-Dec	J	222
40	Benincasa hispida	Chalkumra	Cucurbitaceae	С	Р	CN	May-Nov	J	69
41	Bombax ceiba	Shimul	Bombaceace	T	Р	CN	Jan-Apr	J	61
42	Borassus flabellifer	Taal	Arecaceae	T	Р	CN	Jun-Aug	J	33
43	Bougainvillea	Baganbilash	Nyctaginaceae	С	W	R	TY	J	172
	spectabilis								
44	Brassica napus	Sorisha	Brassicaceae	Н	Р	CN	Mar-Jul	J	152
45	Brassica oleracea var.	Fulkopy	Brassicaceae	Н	Р	CN	Feb-June	J	197
	botrydis								
46	Brassica oleracea var.	Patacopy	Brassicaceae	Н	Р	CN	Dec-Mar	J	199
	.capitata								
47	Bryophyllum pinnatum	Pathorkuchi	Crassulaceae	Н	W	VC	TY	J	5
48	Cajanus cajan	Arhor daal	Fabaceae	S	Р	CN	Dec-Apr	J	196
49	Calotropis procera	Akondo	Asclepiadaceae	S	W	CN	SS	J	142
50	Callistemon	Lal bottle brush	Apocynaceae	Т	Р	CN	Feb-Jan	J	224
	Citrirus								
51	Capsicum frutescens	Morice	Solanaceae	Н	Р	CN	TY	J	71
52	Carissa carandas	Koromcha	Apocynaceae	S	Р	R	Mar-Jun	J	3
53	Carrica papaya	Рере	Caricaceae	T	Р	VC	TY	J	27
54	Catharanthus roseus	Noyontara	Apocynaceae	Н	Р	VC	TY	J	20
55	Celosia cristata	Morogful	Amaranthaceae	Н	Р	R	TY	J	101
56	Centella asiatica	Thankuni	Apiaceae	Н	W	VC	TY	J	114
57	Cestrum nocturnum	Hasnahena	Solanaceae	S	Р	CN	TY	J	43
58	Chenopodium album	Botua	Chenopodiaceae	Н	W	R	Dec-Mar	J	79
59	Chenopodium	Chondonbita	Chenopodiaceae	Н	W	VC	Mar-Jun	J	102
	ambrosioides								
60	Chrysanthamum	Chandromollika	Asteraceae	S	Р	R	Dec-Mar	J	170

	coronarium								
61	Cinnamomum tamala	Tejpata	Lauraceae	T	Р	R	Feb-Oct	J	140
62	Cinnamomum verum	Darchini	Lauraceae	T	Р	VR	Jan-Mar	J	165
63	Citrus aurantifolia	Lebu	Rutaceae	Т	Р	VC	Mar-Sep	J	28
64	Citrus grandis	Jambura	Rutaceae	Т	Р	CN	Feb-Nov	J	7
65	Cleome viscosa	Hurhure	Capparaceae	Н	W	R	TY	J	124
66	Clerodendrum inerme	Bamunhati	Verbenaceae	Н	W	CN	NK	J	187
67	Clerodendrum	Vet	Verbenaceae	S	W	VC	Jan-July	J	63
	viscosum								
68	Clitoria tarnetea	Oporajita	Fabaceae	Н	W	R	Jun-Mar	J	171
69	Coccinia grandis	Telakucha	Cucurbitaceae	С	W	VC	Mar-Dec	J	97
70	Cocos nucifera	Daab	Arecaceae	T	Р	VC	Mar-Jul	J	117
71	Coix lacryma	Kuch	Poaceae	S	W	R	May-Aug	J	111
72	Colocasia esculenta	Kochu	Araceae	Н	Р	VC	TY	J	87
73	Commelina	Kanshira	Commelinaceae	Н	W	VC	Apr-Nov	J	134
	benghalensis								
74	Commelina Longifolia	Panikanchira	Commelinaceae	Н	W	CN	Sep-April	J	199
75	Corchorus capsularis	Pat	Tiliaceae	S	Р	CN	Mar-Aug	J	57
76	Coriandrum sativum	Dhonepata	Apiaceae	Н	Р	VC	Dec-Feb	J	194
77	Croton bonplandianum	Croton	Euphorbiaceae	Н	W	VC	TY	J	31
78	Cucumis melo	Bangi	Cucurbitaceae	С	Р	R	Mar-Oct	J	9
79	Cucumis sativus	Sosha	Cucurbitaceae	С	Р	R	Apr-Oct	J	81
80	Cucurbita maxima	Mishtikumra	Cucurbitaceae	С	Р	CN	Mar-Oct	J	72
81	Curcuma longa	Holud	Zingiberaceae	Н	Р	CN	Mar-Feb	J	46
82	Cuscuta reflexa	Shornolota	Cuscutaceae	С	W	CN	Aug-Mar	J	139
83	Cyanotis	Unknown	Commelinaceae	Н	W	CN	Jan-Mar	J	201
	axillaris								
84	Cyanotis cristata	Unknown	Commelinaceae	Н	W	CN	Jan-Mar	J	200
85	Cynodon dactylon	Durba	Poaceae	Н	Р	VC	TY	J	119
86	Cyperus latifolius	Gola methi	Cyperaceae	Н	W	CN	Oct-Nov	J	203
87	Dalbergia sissoo	Sishu	Fabaceae	Т	Р	CN	Mar-Jun	J	106
88	Datura metel	Dhutura	Solanaceae	S	W	R	Jan-Dec	J	147
89	Delonix regia	Krishnochura	Caesalpiniaceae	Т	Р	CN	Apr-Sep	J	91

90	Dillenia indica	Chalta	Dilleniaceae	Т	Р	VR	May-Feb	J	167
91	Diospyros malabarica	Gaab	Ebenaceae	Т	Р	VR	May-Aug	J	99
92	Drosera burmanni	Mukhi-Jali	Droseraceae	Н	Р	VR	Jan-Feb	J	219
93	Duranta repens	Duranta	Verbenaceae	S	Р	CN	TY	J	130
94	Eclipta alba	Kalokesh	Asteraceae	Н	W	CN	TY	J	55
95	Elaeocarpus robustus	Jolpai	Elaeocarpaceae	Т	Р	CN	Mar-Dec	J	13
96	Eleocharis Palustris	Unknown	Cyperaceae	Н	W	CN	Feb-April	J	205
97	Epipremnum aureum	Moneyplant	Araceae	С	W	CN	TY	J	105
98	Erythrina variegata	Mother	Fabaceae	S	W	VR	Feb-May	J	133
99	Eucalyptus citrodora	Ukaliptas	Myrtaceae	Т	Р	VC	TY	J	126
100	Euphorbia hirta	Dudhiya	Euphorbiaceae	Н	W	VC	TY	J	47
101	Euphorbia pulcherrima	Lalpata	Euphorbiaceae	S	W	R	Dec-Mar	J	51
102	Ficus benghalensis	Bot gas	Moraceae	Т	Р	CN	May-Aug	J	92
103	Ficus hispida	Khoksha dumur	Moraceae	S	W	VC	Apr-Sep	J	48
104	Ficus racemosa	Dumur	Moraceae	Т	Р	R	Apr-Sep	J	36
105	Ficus religiosa	Pakur	Moraceae	Т	Р	CN	Jul-Nov	J	90
106	Gardenia jasminoides	Gondhoraj	Rubiaceae	S	Р	CN	Mar-Jul	J	175
107	Glinus oppositifolius	Gima shak	Molluginaceae	Н	W	CN	TY	J	116
108	Gmelina arborea	Gamar	Verbenaceae	Т	Р	R	Feb-Jul	J	44
109	Helianthus annuus	Surjomukhi	Asteraceae	Н	Р	R	TY	J	154
110	Heliotropium indicum	Hatishur	Boraginaceae	Н	W	VC	TY	J	30
111	Hibiscus rosa-sinensis	Joba	Malvaceae	S	Р	VC	Jan-Dec	J	18
112	Hydrolea zeylanica	Kasschra	Hydrophy-laceae	Н	W	CN	Dec-Feb	J	233
113	Impatiens balsamina	Dopati	Balsaminaceae	Н	Р	R	Mar-Oct	J	176
114	Imperata cylindrica	Ullu	Poaceae	Н	W	CN	TY	J	185
115	Ipomoea alba	Dudh kolmi	Convolvulaceae	С	W	CN	TY	J	186
116	Ipomoea aquatica	Kalmishak	Convolvulaceae	С	Р	CN	Jan-Dec	J	66
117	Ipomoea batatus	Mistialu	Convolvulaceae	С	Р	CN	TY	J	143
118	Ipomoea fistulosa	Dholkalmi	Convolvu-laceae	S	W	С	TY	J	
119	Isachne globosa	Jhirjhiri ghash	Poaceae	Н	W	VC	TY	J	128
120	Ixora coccinia	Rongon	Rubiaceae	S	Р	CN	TY	J	162
121	Jasminum	Kathmoni	Oleaceae	S	W	R	Jun-Nov	J	60
	grandiflorum								
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122	Jatropha gossypifolia	Lalkundu	Euphorbiaceae	S	W	R	Apr-Aug	J	138
123	Jatropha integerrima	Dottokia	Euphorbiaceae	S	Р	R	Apr-Aug	J	179
124	Justicia adhatoda	Basok	Acanthaceae	S	W	R	TY	J	135
125	Justicia gendarusa	Jogotmodon	Acanthaceae	S	Р	CN	Dec-May	J	52
126	Kyllirga monocephale	Nirbishi	Cyperaceae	Н	W	CN	Feb-April	J	204
127	Lablab purpureus	Shim	Fabaceae	С	Р	CN	Nov-Mar	J	86
128	Lagenaria sicararia	Lau	Cucurbitaceae	С	Р	VC	Feb-May	J	68
129	Lagerstroemia speciosa	Jarul	Lythraceae	Т	Р	CN	Apr-Aug	J	123
130	Lannea coromandelica	Jiga	Anacardiaceae	Т	Р	CN	Apr-Dec	J	21
131	Lantara camara	lantara	Verbiceae	S	W	VC	Sep-Jan	J	206
132	Lawsonia inermis	Mehedi	Lythraceae	S	Р	VC	Jun-Dec	J	156
133	Leonuros sibiricus	Roktodron	Lamiaceae	Н	W	VR	TY	J	94
134	Leucas aspera	Setodron	Lamiaceae	Н	W	VC	TY	J	53
135	Leucas Lavardufolia	Hal-kusa	Lamiaceae	Н	W	CN	Aug-May	J	212
136	Limonia acidissima	Kodbel	Rutaceae	Т	Р	CN	Feb-Dec	J	40
137	Lindenergia indica	Basanti	Serophula-riceae	Н	W	CN	TY	J	234
138	Litchi chinensis	Lichu	Sapindaceae	Т	Р	CN	Apr-Jun	J	23
139	Litsea monopetala	Pepulte	Lauraceae	S	Р	R	Mar-Nov	J	58
140	Luffa acutangula	Jhinga	Cucurbitaceae	С	Р	R	Apr-Oct	J	74
141	Luffa cylindrica	Kodor	Cucurbitaceae	С	Р	R	Jun-Nov	J	203
142	Lycopersicon	Tometo	Solanaceae	Н	Р	VC	Mar-Dec	J	112
	esculentum								
143	Mangifera indica	Aam	Anacardiaceae	Т	Р	VC	Jan-Jun	J	6
144	Manikara zapota	Sopheda	Sapotaceae	Т	Р	CN	May-July	J	221
145	Mentha arvensis	Pudina pata	Lamiaceae	Н	Р	R	July-Sep	J	144
146	Meusa nagassarium	Nageshwar	Clusjaceae	T	W	VR	Feb-May	J	216
147	Michella champaca	Champa	Magnoli-aceae	Т	Р	VR	Mar-May	J	208
148	Mimosa pudica	Lojjaboti	Mimosaceae	Н	W	VC	Sep-Dec	J	107
149	Mimusops elengi	Bokul	Sapotaceae	T	Р	CN	Mar-Jun	J	24
150	Mirabilis jalapa	Sondhamaloti	Nyctaginaceae	Н	Р	CN	Mar-Nov	J	95
151	Momordica charantia	Korolla	Cucurbitaceae	С	Р	R	May-Oct	J	70
152	Murdania spirata	Unknown	Commeli-naceae	Н	W	CN	Nov-Feb	J	202
153	Momordica	Kakrol	Cucurbitaceae	С	Р	R	July-Nov	J	141
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	cochinchinensis					Ì			
154	Monochoria hastata	Barunkha	Pontederiaceae	Н	W	VC	TY	J	82
155	Morinda citrifolia	Bazrachand	Rubiaceae	S	W	R	May-Nov	J	59
156	Moringa oleifera	Sojna	Moringaceae	Т	Р	CN	Jan-Aug	J	29
157	Morus indica	Tut	Moraceae	Т	Р	R	May-Jul	J	98
158	Mukia maderaspatana	Makal	Cucurbitaceae	С	W	R	Jun-Nov	J	190
159	Murraya paniculata	Kamini	Rutaceae	S	Р	R	Mar-Jan	J	49
160	Musa sapientum	Kola	Musaceae	S	Р	VC	TY	J	26
161	Nerium indicum	Kobori	Apocynaceae	Н	Р	R	Jan-Jul	J	178
162	Nicotiana	Bontamak	Solanaceae	Н	W	CN	Mar-Dec	J	93
	plumbaginifolia								
163	Nyctanthes arbor-tristis	Shefali	Oleaceae	S	Р	R	Nov-Feb	J	180
164	Nymphaea nouchali	Shapla	Nymphaeaceae	Н	Р	CN	Jun-Oct	J	150
165	Nymphoides indicum	Panchli	Menyan-thaceae	Н	W	CN	NK	J	232
166	Ocimum sanctum	Tulshi	Lamiaceae	Н	Р	R	Jun-Feb	J	108
167	Oryza sativa	Dhan gas	Poaceae	Н	Р	CN	Jul-Oct	J	78
168	Oxalis corniculata	Amrul	Oxalidaceae	Н	W	CN	Sep-May	J	115
169	Parthenium	Parthenium	Asteraceae	Н	W	VC	TY	J	88
	hysterophorus								
170	Pepermia pellucide	Peperomia	Piperaceae	Н	W	CN	TY	J	209
171	Passiflora edulis	Nilmonilata	Passifloraceae	С	W	R	Mar-June	J	220
172	Phoenix sylvestris	Khejur	Arecaceae	Т	Р	VC	Dec-July	J	64
173	Phyllanthus emblica	Amloki	Euphorbiaceae	Т	Р	CN	Mar-June	J	225
174	Phyllanthus reticulatus	Chitki	Euphorbiaceae	S	W	VC	Mar-Oct	J	155
175	Physalis minima	Kopalfotka	Solanaceae	Н	W	CN	WS	J	132
176	Piper betle	Paan	Piperaceae	С	Р	R	Dec-May	J	151
177	Pisonia aculeata	Baghachra	Nyctaginaceae	С	W	R	TY	J	149
178	Polyalthia longifolia	Debdaru	Annonaceae	Т	Р	CN	Mar Oct	J	164
179	Polycarpon prostratum	Ghima	Caryophylac	Н	W	CN	Dec- Feb	J	214
180	Persicaria barbatum	Beklumjubaz	Polygonaceae	Н	W	CN	June-Jan	J	215
181	Persicariahydropiper	Boro pani	Polygonaceae	Н	W	VC	TY	J	67
		morich							
182	Persicaria orientale	Panimorich	Polygonaceae	Н	W	VC	TY	J	89

183	Portulaca oleracea	Nunia shak	Portulacaceae	Н	W	CN	May-Aug	J	153
184	Pouzolzia zeylanica	Unkrown	Urticaceae	Н	W	CN	May-Oct	J	211
185	Psidium guajava	Peyara	Myrtaceae	Т	Р	VC	SRS	J	10
186	Pterospermum	kanakchapa	Sterculiaceae	Т	Р	R	May-July	J	217
	acerifolium								
187	Punica granatum	Dalim	Punicaceae	Т	Р	CN	Jan-Dec	J	14
188	Pyrus communis	Nashpati	Rosaceae	S	Р	R	Jul-Sep	J	177
189	Raphanus sativus	Mulashak	Brassicaceae	Н	Р	CN	Jan-May	J	195
190	Rosa centifolia	Golap	Rosaceae	S	Р	VC	May-Jul	J	127
191	Saccharum officinarum	Aakh	Poaceae	S	Р	CN	TY	J	110
192	Saccharum	Kash	Poaceae	S	Р	CN	Jun-Aug	J	168
	spontaneum								
193	Scorparia dulcis	Bondone	Plantaginaceae	Н	W	VC	TY	J	56
194	Senna sophera	Kolkasunda	Fabaceae	Н	W	CN	Apr-Aug	J	184
195	Sesamum indicum	Til	Pedaliaceae	Н	Р	CN	Feb-Oct	J	158
196	Sesbania canabina	Dhonche	Fabaceae	S	Р	VC	Mar-Aug	J	113
197	Sida cordifolia	Berela	Malvaceae	Н	W	VR	Sep-Dec	J	183
198	Solanum filicitolium	Tit begun	Solanaceae	S	W	CN	TY	J	230
199	Solanum melongena	Begun	Solanaceae	S	Р	CN	Oct-Mar	J	76
200	Solanum nigrum	Titbegun	Solanaceae	S	W	VC	Jan-Dec	J	45
201	Solanum torvum	Garakada	Solanaceae	S	W	CN	Jan-Dec	J	62
202	Solanum tuberosum	Gol alu	Solanaceae	Н	Р	CN	Oct-Feb	J	103
203	Spathodea	Krisnonaoka	Bignoniaceae	Т	W	CN	Feb-Apr	J	236
	campanulata								
204	Spilanthes calva	Unknown	Asteraceae	Н	W	VC	TY	J	54
205	Spondius pinnata	Aamra	Anacardiaceae	Т	Р	CN	Feb-Aug	J	15
206	Spondius purpurea	Bilati aamra	Anacardiaceae	Т	Р	R	Mar-Oct	J	131
207	Stemodio viscosa	Kukachuni	Serophu lariacea	Н	W	CN	Dec-Feb	J	238
208	Stephania japonica	Akunondo	Menispermaceae	С	W	VC	Jan-Dec	J	104
209	Streblus asper	Shewra	Moraceae	Т	W	R	Feb-Jun	J	160
210	Swietenia mahagoni	Mehogoni	Meliaceae	Т	Р	CN	Apr-Nov	J	39
211	Syzygium cumini	Jam	Myrtaceae	Т	Р	VC	Mar-Jun	J	11
	I	I	I	1		1		I	I

212	Syzygium jambos	Golapjam	Myrtaceae	Τ	Р	VR	Mar-Jun	J	38
213	Syzygium	Jamrul	Myrtaceae	Т	Р	CN	Feb-May	J	35
	samarangense								
214	Tabebuia speciosa	Urknown	Bignonj-Acea	Т	W	CN	Jun-July	J	235
215	Tabernaemontana	Togor varigate	Apocynaceae	S	Р	R	Apr-Jan	J	50
	coronaria								
216	Tabernaemontana	Togor	Apocynaceae	S	Р	CN	May-Jan	J	192
	divaricata								
217	Tagetes patula	Gada	Asteraceae	Н	Р	CN	WS	J	129
218	Tamarindus indica	Tetul	Caesalpiniaceae	Т	Р	CN	Jun-Jul	J	161
219	Tectona grandis	Shegun	Verbenaceae	Т	Р	R	June-Sep	J	41
220	Terminalia arjuna	Arjun	Combretaceae	Т	Р	CN	Apr-Oct	J	2
221	Terminalia catappa	Kathbadam	Combretaceae	Т	Р	R	Mar-Dec	J	191
222	Threvetia Pecuriana	Kalki-Phul	Apocynaceae	Т	Р	CN	TY	J	229
223	Toona ciliafa	Pia	Meliaceaeq	Т	W	VR	Jan-Apr.	J	227
224	Trapa bispinosa	Panifol	Trapaceae	Н	W	VC	RS	J	137
225	Trema amboinsis	Gibon	Ulmaceae	Т	Р	VR	May-Aug.	J	210
226	Trichosanthes arguina	Dudhkushi	Cucurbitaceae	С	Р	CN	Apr-Aug	J	202
227	Trichosanthes dioica	Potol	Cucurbitaceae	С	Р	CN	Apr-Sep	J	73
228	Tridax procumbens	Tridhara	Asteraceae	Н	W	CV	TY	J	197
229	Typhonium trilobatum	Ol kochu	Araceae	Н	Р	CN	May-Nov	J	96
230	Vigna mungo	Mashkalai	Fabaceae	Н	Р	CN	Nov-Jan	J	198
231	Vigna sinensis	Borboti	Fabaceae	С	Р	R	Apr-Jul	J	75
232	Vitex negundo	Nisinda	Verbenaceae	S	W	R	May-Sep	J	100
233	Vitis trifolia	Bon angur	Vitaceae	С	W	VR	May-Dec	J	182
234	Vitis vinifera	Aangur	Vitaceae	С	Р	R	May-Dec	J	173
235	Xanthium indicum	Hagra	Asteraceae	Н	W	VC	TY	J	84
236	Xeromphis spinosa	Unknown	Rubiaceae	S	W	R	Apr-July	J	239
237	Zea mays	Vutta	Poaceae	S	Р	R	Mar-Jul	J	80
238	Zingiber officinale	Ada	Zingiberaceae	Н	Р	R	Mar-Feb	J	120
239	Zizyphus mauritiana	Boroi	Rhamnaceae	Т	Р	VC	Sep-Mar	J	22

H=Herb, S=Shrub, T=Tree, C=Climber; P=Planted, W=Wild, VC=Very Common, CN=Common, R=Rare, VR=Very rare, Jan=January, Feb=February, Mar=March, Apr=April, Jun=June, Jul=July, Aug=August, Sep=September, Oct=October,

Nov=November, **Dec**=December, **NK**=Not know, **RS**=Rainy Season, **SRS**=Summer & Rainy Season, **SS**=Summer Season, **TY**=Throughout the year, **WS**=Winter season.

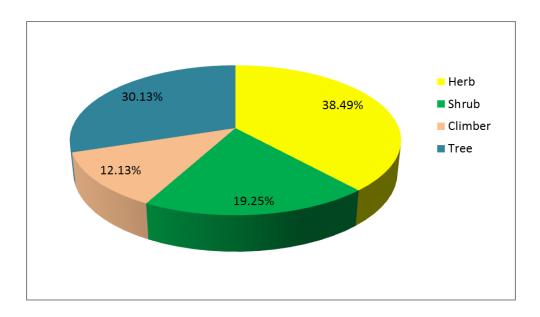


Figure 1 Habit diversity of the recorded species

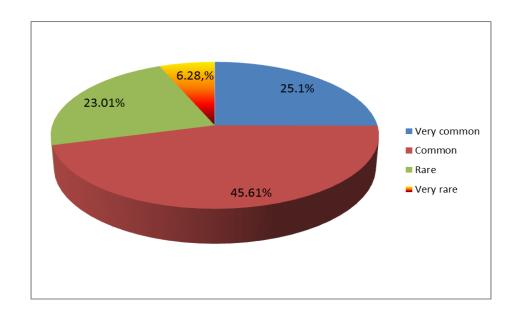


Figure 2 Percentage (%) of status of occurrence

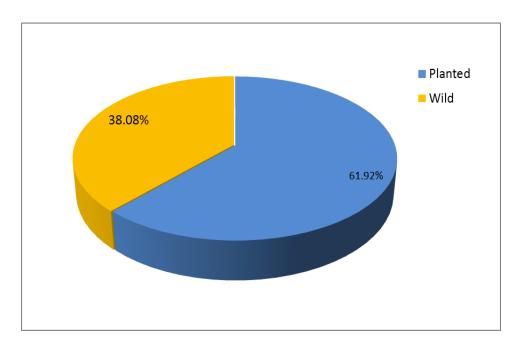


Figure 3 Percentage (%) of wild and planted plant species





Figure 4 Important angiosperm plant species in the study area

A. Michelia champaca Linn., B. Annona squamosa Linn., C. Polyalthia longifolia Benth & Hook, D. Cinnamomum tamala (Buch.-Ham.) T.Nees & Eberm, E. Cinnamomum verum J. Presl, F. Litsea monopetala (Roxb.) Pers., G. Piper betel L., H. Peperomia pellucida Kunth, I. Nymphaea nouchali Burm.f., J. Stephania japonica (Thunb.) Miers.,K. Argemone mexicana L., L. Trema amboinsis Lamk., M. Artocarpus heterophyllus Lamk., N. Artocarpus lacucha Buch-Ham., O. Ficus benghalensis L., P. Ficus racemosa L., Q. Ficus hispida L.f., R. Ficus religiosa L., S. Morus indica L., T. Streblus asper Lour.

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